

Autologous Chondrocyte Implantation (MACI) of Patella/Trochlea Protocol

	Weight-baring	Brace	Range of Motion	Exercises
Phase 1 0-4 weeks	As tolerated with crutches*	0-1 weeks: Locked in full extension for ambulation and sleeping 1-4 weeks: Unlocked for ambulation, remove for sleeping**	As tolerated, goal 90° at first post-op visit	Heel slides, quad/hamstring sets, patellar mobilization, gastroc/soleus stretch SLR w/ brace in full extension until quad strength prevents extension lag
Phase 2 4-12 weeks	Full, progressing to normal gait pattern	Discontinue at day 28 if patient has no extension lag	Main full extension and progressive flexion	Progress Phase I: Begin toe raises, closed chain quads, balance exercises, hamstring curls, stationary bike, step-ups, front and side planks, hip/glute/core, pool
Phase 3 12-16 weeks	Full with a normalized gait pattern	None	Gain full and pain-free	Advance closed chain strengthening, progress proprioception activities Begin Stairmaster, elliptical and running straight ahead
Phase 4 16 weeks – 6 months	Full	None	Full	16 weeks: Begin jumping 20 weeks: Advance running to sprinting, backward running, cutting/pivoting/changing direction, initiate plyometric program and sport-specific drills 22 weeks: Advance as tolerated FSA completed at 22 weeks***

Phase 5 6-12 months	Full	None	Full	Gradual return to sports participation after completion of FSA Maintenance program based on FSA
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CPM – continuous passive motion machine; SLR – Straight-leg raise;

*Modified with concomitantly performed meniscus repair/transplantation or articular cartilage procedure

**Brace may be removed for sleeping after first post-operative visit (day 7-10)

***Completion of FSA (Functional Sports Assessment) not mandatory, but recommended at approximately 22 weeks post-op for competitive athletes returning to play after rehab